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August 21, 2019

Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Re: ***Expanding Flexible Use of the 3.7 GHz Band***
GN Docket No. 18-122
Ex Parte Communication

Dear Ms. Dortch:

The Wireless Internet Service Providers Association ("WISPA") writes to address and rebut an attempt by the National Association of Broadcasters ("NAB") to mislead the Commission regarding coexistence between fixed wireless systems and earth stations in the C-band.

In its recent reply comments in this docket, NAB discussed whether point-to-multipoint ("P2MP") fixed wireless operations should be authorized on a coordinated, shared basis with C-band earth stations and stated the following:

> [W]hen national administrations have elected to allow such sharing at power levels comparable to those contemplated by [P2MP] proponents there have been massive interruptions and system failures. In both Bangladesh and Brazil, for example, interference to C-Band FSS earth stations due to shared spectrum [P2MP] operations resulted in television signals getting knocked off the air across entire cities.[1]

NAB cites to an ITU report as supporting this assertion,[2] which SIA already cited in response to the Commission's Notice of Inquiry and Notice of Proposed Rulemaking.[3] SIA also cited separate incidents in Hong Kong and Bolivia mentioned in a twelve-year old advocacy paper written by various satellite operator associations for the purpose of influencing ITU proceedings against spectrum sharing.[4]

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[1] Reply Comments of NAB, GN Docket No. 18-122 (filed Aug. 14, 2019) at 6.
[2] ITU-R Report S.2368 (06/2015), "Sharing studies between IMT-Advanced systems and geostationary satellite networks in the fixed satellite service in the 3 400–4 200 and 4 500–4 800 MHz frequency bands in the WRC study cycle leading to WRC-15" (2015) ("Report S.2368"), *available at* https://www.itu.int/dms_pub/itu-r/opb/rep/R-REP-S.2368-2015-PDF-E.pdf (last visited Aug. 17, 2019).
[3] *See* Comments of The Satellite Industry Association, GN Docket No. 17-183 (filed Oct. 2, 2017) at 39; Comments of The Satellite Industry Association, GN Docket No. 18-122, GN Docket No. 17-183, RM-11791 and RM-11778 (filed Oct. 29, 2018) at 19-20.
[4] International Associations of the Satellite Communications Industry, Position Paper on Interference in C-band by Terrestrial Wireless Applications to Satellite Applications at 1-3, ITU Workshop on Market

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Citing the ITU report is misleading because NAB, and SIA before it, mention only the fact that interference occurred, and do not explain that the circumstances in Bangladesh and Brazil were entirely different from *coordinated* sharing that would take place in the United States under the proposal advanced by the Broadband Access Coalition ("BAC") and others in this proceeding. With respect to Bangladesh, the ITU report states that a large number of WiMAX repeaters operating between 3.4 and 3.7 GHz were deployed throughout Dhaka, at distances ranging from 50 meters to a few hundred meters from C-band earth stations. There is nothing in the ITU report that indicates that these were *coordinated* deployments.[5] In Brazil, the report does not provide any detail as to how far fixed wireless facilities may have been placed, how they were placed, or how many may have been placed near testing sites, though it is important to note that minimum distances without interference ranged from a low of only 200 meters to a maximum of just over 12 kilometers, and in most cases were on the order of a few thousand meters[6] -- far closer than the 150 kilometers demanded as a protection zone by satellite operators. As for the Hong Kong and Bolivia cases cited by SIA, no technical details are provided at all, except for the bands in which the systems operated, and the satellite companies that authored the report were in no way arguing for reasonable sharing of spectrum.[7] Certainly, there's no evidence that fixed wireless deployments in these countries were coordinated to any significant degree with local earth stations.

NAB and SIA thus mislead the Commission by disingenuously comparing carefully coordinated P2MP operations in C-band spectrum to network deployments about which next to nothing is known, except that they were likely uncoordinated with earth stations. This is yet another attempt by biased parties to portray P2MP operations as irresponsibly spraying energy all over the C-band without regard to or consideration of existing satellite earth stations.[8] Nothing of the sort has occurred in the past in the United States. Nor is anything of the sort proposed in this proceeding. Throughout the Commission's Notice of Proposed Rulemaking, the Commission cited the existing process in Part 101 of the Commission's rules to allow fixed

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Mechanisms for Spectrum Management (2007) ("Satellite Industry Advocacy Paper"), *available at* https://www.itu.int/osg/spu/stn/spectrum/workshop_proceedings/Background_Papers_Final/C-band%20Interference%20-%20Global%20Position%20Paper%20for%20ITU%20%20%20%20%20%20spectrum%20workshop.pdf (last visited Aug. 17, 2019).

[5] Report S.2368 at 24, 27.

[6] *Id.* at 29.

[7] Satellite Industry Advocacy Paper at 3.

[8] As WISPA explained in its recent reply comments, the Content Companies also try to do this somewhat more ham-handedly, stating that P2MP operations "necessarily emit high-powered signals in many directions" and supporting this statement with nothing more than citations to two of its previous comments. *See* Reply Comments of WISPA, GN Docket No. 18-122 (filed Aug. 14, 2019) ("WISPA Replies") at 23 & nn.91-92.

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wireless systems to coordinate and share C-Band spectrum with FSS earth stations.[9] The Commission's inquiry explicitly stated that its current coordination rules were based on longstanding ITU, Telecommunications Industry Association and other standards, and asked how these standards could be applied or adapted to accommodate P2MP services in the C-band, while protecting earth stations: the Commission did not, as NAB and SIA would portray it, propose to toss the rules and caution out the window.[10]

Indeed, NAB's attempt to use these claims of "massive interruptions and system failures" seems particularly misleading since we know, unequivocally, that properly coordinated co-channel sharing between P2MP and C-Band earth stations is possible *because thousands of fixed wireless transmitters do so in the United States today.* WISPA Technical Consultant Fred Goldstein examined Commission records of authorized co-channel systems, and explained in the Technical Appendix to WISPA's recent reply comments that

> There are thousands of examples of broadband systems operating normally within the 150 km 'exclusion' zones of co-channel FSS after coordination. Sometimes such operations take place within a few tens of meters. The conclusion from the Reed Study that properly-engineered broadband systems can operate within about 10 km, on average, of co-channel earth stations accordingly is verified by actual deployments. Assertions that separation distances of 150 km are needed are absurd and disproven by actual operations.[11]

In addition, the coordinated sharing occurring in the United States today results from good faith negotiations conducted pursuant to FCC rules[12] and location-specific interference analyses. By automating coordination and removing the possibility that human error can be introduced, the accuracy of coordination can be further refined. And, as WISPA stated in its

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[9] *See Expanding Flexible Use of the 3.7 to 4.2 Band*, Order and Notice of Proposed Rulemaking, 33 FCC Rcd 6915 (2018) at 6928-29 (¶ 37) (coordination process), 6933 (¶ 50) (acknowledging coordination allows sharing on a co-primary basis), 6952 (¶ 117) (coordination process), 6954 (¶ 121) (citing ITU Radio Regulations, Appendix 7 and TIA Telecommunications System Bulletin 10-F underlying Part 101 process), 6955 (¶ 123) (coordination process), 6956-57 (¶ 125-26) (rules for power limits and antennas).

[10] This is not the first time SIA has mistakenly appealed to ITU authority to justify unreasonable protection requirements. When the Commission adopted a 150 km protection zone for 3.65-3.7 GHz, the Commission specifically rejected SIA's attempt to justify a 313 km protection zone by manipulating variables from an ITU Recommendation, stating that the Recommendation did not establish "interference protection criteria," and, moreover, that if the design guidelines were used as written, such a change "would greatly reduce the required protection distances computed in [SIA's] analysis." *Wireless Operations in the 3650-3700 MHz Band*, Report & Order, 20 FCC Rcd 6502, 6577 (¶ 63) (2005).

[11] WISPA Reply Comments, Technical Appendix at 11.

[12] *See* 47 C.F.R. § 101.103(d) (coordination in the 3.7-4.2 band); 47 C.F.R. §90.1331(a) (coordination in 3.65-3.7 band).

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reply comments, stakeholders such as NAB and SIA absolutely should participate in developing the automated frequency coordination process.[13]

NAB's dredging up of these cases simply highlights the weakness of its objections to coordinated sharing of spectrum in the C-band. The Commission is far better served considering comments from parties like Frontier and Windstream, each of which have hundreds of thousands of pay television subscribers served by C-Band earth stations. Frontier and Windstream view the possibility of sharing C-band spectrum with fixed wireless realistically, and see it as an important part of their future plan to expand fixed broadband access to rural Americans:

> As part of both Frontier's and Windstream's rural broadband expansion, Frontier and Windstream are busy deploying wireless broadband, including using mid-band spectrum. Our companies believe, and as we have explained in this and other dockets, that smart rules enabling fixed point-to-multipoint deployments would provide another key tool in the toolbox to reach the hardest to serve rural Americans.[14]

Pursuant to Section 1.1206 of the Commission's Rules, this letter is being filed in ECFS in the above-referenced docket. Please do not hesitate to contact the undersigned with any questions.

Respectfully submitted,

/s/ Louis Peraertz
Louis Peraertz, Vice President of Policy

cc: Aaron Goldberger
Erin McGrath
Will Adams
Umair Javed
Bill Davenport
Donald Stockdale
Tom Sullivan
Julius Knapp
Giulia McHenry

[13] WISPA Reply Comments at 3, 20.
[14] Comments of Frontier Communications Corp. & Windstream Services, LLC, GN Docket No. 18-122, RM-11791 and RM-11778 (filed August 7, 2019) at 2.